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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/817,475	04/02/2004	Jung Hec Lee	9951-003US	3214

22897 7590 01/05/2006

DEMONT & BREYER, LLC  
SUITE 250  
100 COMMONS WAY  
HOLMDEL, NJ 07733

EXAMINER
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SASTRI, SATYA B

ART UNIT	PAPER NUMBER
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1713

DATE MAILED: 01/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/817,475	LEE ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Satya B. Sastri	1713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 26 October 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. This office action is in response to application filed on April 2, 2004. With the cancellation of *claim 23* in response to restriction requirement dated October 26, 2005, *claims 1-21* are now pending in the application.

#### *Claim Rejections - 35 USC § 102 and 103*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. *Claims 1, 3, 4, 7-11, 13-21* are rejected under 35 U.S.C. 102(b) as anticipated by Kojima et al. (US 5,338,780).

Prior art to Kojima et al. discloses a polyolefin resin (A) containing carbon black is blended with (B) a phenolic compound of formula (I), (C) an organic sulfur compound such as (II-1) or (II-2), (D) a piperidine compound and (E) an epoxy compound of Bisphenol A type glycidyl ether (abstract). The polyolefin resins disclosed include polyethylene, polypropylene, copolymers of olefins with acrylic acid, methacrylic acid, vinyl acetate etc. (column 2, lines 16-

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33). Carbon blacks such as acetylene black, furnace black etc. with a particle size less than 30  $\mu\text{m}$  may be used in amounts of 0.05-10%w/w (column 2, lines 45-64). The amounts of (B) to (E), based on 100 parts of polyolefin resin containing carbon black may range from 0.01-1 part by wt. of phenolic compound (B), 0.02-2 parts by wt. of organic sulfur compound (C), 0.01-1 part by wt. of piperidine compound (D) and 5 parts by wt. of E (column 7, lines 20-42). The polyolefin resin may additionally antioxidants, stabilizers etc. Disclosed antioxidants include phenolic antioxidants other than (B), sulfur antioxidants other than component (C) and phosphorus containing antioxidants (column 7, lines 42-68 and column 8, lines 1-14). The light stabilizers may be those based on benzotriazoles, benzophenones, hydroxybenzoates etc. disclosed in column 8, lines 19-43. Piperidine compounds are those disclosed in column 3, lines 59-67, columns 4-6, column 9, lines 43-56 and disclosed organic sulfur containing compounds include the instantly claimed compounds of claim 20 (column 3, lines 46-58, column 9, lines 42-55). Thus, *claims 1, 3, 4, 7-11, 13-21* are anticipated by the prior art.

5. *Claims 2, 5, 6* are rejected under 35 U.S.C. 103(a) as being unpatentable over Kojima et al. (US 5,338,780) in view of Lee (US 6,197,852).

Prior art to Kojima et al. is elaborated above in paragraph 4 above and is incorporated herein by reference.

The difference between the prior art and the instant invention is that the prior art does not specifically teach the particle carbon black filler size of 30 nm or less or the melt index of the polyethylene.

The secondary reference to Lee is in an analogous field of polyolefin compositions with carbon black. The prior art teaches that it is particularly advantageous to use smaller particle size, in the range of 10-60 nm, to effectively disperse carbon black in thermoplastic materials (column 3, lines 55-67 and column 4, lines 1-9). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include carbon black having particle size 10-60 nm in the compositions of Kojima et al. and thereby obtain the instant invention. It is the examiner's position that the surface area and particle size are related and the carbon black particles of Lee would intrinsically have the instantly claimed surface areas.

Additionally, the prior art to Lee discloses compositions based on LDPE, MDPE or HDPE with a melt index of 0.1 to 100 g/10 min. (column 3, lines 26-35).

6. ***Claim 12*** is rejected under 35 U.S.C. 103(a) as being unpatentable over Kojima et al. (US 5,338,780).

Prior art to Kojima et al. is elaborated above in paragraph 4 above and is incorporated herein by reference.

The difference between the prior art and the instant invention is that the prior art does not teach the specific piperidine compound as claimed instantly.

The prior art Kojima et al. recognizes that a variety of piperidines based on 2,2,6,6 piperidine are useful as stabilizers in polyolefin compositions (column 4, lines 20-42). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include 2,6,6,6 piperidine compounds such as those claimed instantly in the compositions of Kojima et al. and thereby obtain the instant invention, absent a showing of unexpected results.

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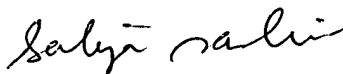
*Conclusion*

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Satya Sastri at (571) 272 1112.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached at (571) 272 1114.

The fax phone number for the organization where this application or proceeding is assigned is (571) 273 8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



SATYA SASTRI

December 30, 2005



DAVID W. WU  
SUPERVISORY PATENT EXAMINER  
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